

File Code: 1940 Monitoring

Date: 6/25/2013

To: Bozeman District Ranger

Subject: Bear Canyon Travel Planning Area – Travel Plan Implementation Monitoring Review

IMPLEMENTATION REVIEW DATE AND PARTICIPANTS

On September 27, 2012 an Implementation Monitoring Review was held to evaluate the Gallatin Travel Management Plan implementation in Bear Canyon. Attendees included Lisa Stoeffler, Brian McNeil, Bruce Roberts, and Dale White.

OBJECTIVES

The review focused on projects completed over the past few years within Bear Canyon including trail bridge construction, trail construction/improvement/rehabilitation, and road decommissioning. In addition to inspection and evaluation of the physical work accomplished, the review team assessed adherence to:

- applicable Gallatin NF road and trail improvement project DN & FONSI, standard operating procedures, additional mitigations, and permit requirements; and,
- GNF Travel Plan goals, objectives, standards, and guidelines.

This review is consistent with Appendix B of the Gallatin NF Travel Plan (FEIS Appendix B-12) which calls for an Implementation Review Team to evaluate the implementation/application, effectiveness, and validity of Travel Plan goals, objectives, standards, and guidelines. Travel Plan direction includes the following evaluation criteria.

Implementation: Were the Goals, Objectives, Standards and Guidelines implemented?

Effectiveness: Were they effective in mitigating effects?

Validation: Are they still valid?

The following is added here as an additional monitoring objective:

Recommendations for Improvement: How can we improve future travel plan implementation in Bear Canyon TPA and the rest of the GNF?

EVALUATION PROTOCOL

Implementation and effectiveness objectives were evaluated using a modified form of the Forestry Best Management Practice (BMP) review protocol developed by the Montana DNRC. The application and effectiveness rating system consisted of the following scoring system:

Application	5 points: Operation exceeds requirements of objective or measure
	4 points: Operation meets requirements of objective or measure
	3 points: Minor departure from measure, requirements mostly met
	2 points: Major departure from measure, objective marginally/barely met
	1 point: Gross neglect of measure, objective not met

Effectiveness	5 points: Improved conditions over pre-project conditions
	4 points: Adequate Protection of resources, effective
	3 points: Minor and temporary impacts on resources, moderately effective
	2 points: Major & temporary or minor & prolonged impacts on resources/slightly effective
	1 point: Major and prolonged impacts on resources/not effective

EVALUATION WORKSHEET

Gallatin NF Travel Plan Goals, Objectives, Standards, and Guidelines				
Rating item	Source	Applic.	Effect	Comments
1. <u>Goal D. Obj. D-1</u> . Close and rehabilitate existing roads that are in excess to administration, recreation, and access needs.	GNF Travel Plan Detailed Description of Decision FEIS pg. 1-11	4	4	
2. <u>Bear Canyon Travel Planning Area Goal 1, OBJ. 1-2</u> : Provide a foot and horse trail connecting the Bear Canyon area to the North Fork of Trail Creek.	GNF Travel Plan, Detailed Description of the decision Chapter II -20	Not rated	Not rated	FS has obtained trail easement but is holding off on trail improvements until logging (extensive) of private land traversed by easement is completed.
3. <u>Bear Canyon Travel Planning Area Goal 1, OBJ. 1-3</u> : Provide a foot and horse trail connecting Chestnut Mountain to Trail Creek.	GNF Travel Plan, Detailed Description of the decision Chapter II -20	4	4	
4. <u>Bear Canyon Travel Planning Area Goal 3, OBJ. 3-1</u> : Reduce contributed sediment from the road and trail system and improve water quality in Bear Creek such that it fully supports beneficial uses.	GNF Travel Plan, Detailed Description of the decision Chapter II -20	4	4	The implementation review cannot determine whether Bear Creek water quality fully supports beneficial uses. However, the project appears to have reduced chronic sediment inputs to Bear Creek, especially those formerly associated with the former road that ran south from trailhead (prior to its decommissioning).

5. <u>Bear Canyon Travel Planning Area Goal 3, STANDARD 3-2:</u> Trails #440, #53, and #508 within the Bear Canyon Creek drainage are not to be opened to summer motorized, mountain bike and horse use until facilities are upgraded to a condition that alleviates sedimentation and water quality impacts from those facilities.	GNF Travel Plan, Detailed Description of the decision Chapter II -20	4	4	
6. <u>Bear Canyon Travel Planning Area Goal 3, STANDARD 3-3:</u> Trails in the Bear Canyon drainage are not to be opened for the summer season to ATV, motorcycle, mountain bike and/or horse use until the trail system is of a condition that prevents adverse erosion and watershed damage (see attached table)	GNF Travel Plan, Detailed Description of the decision Chapter II -20	4	4	
7. <u>Bear Canyon Travel Planning Area Goal 3, STANDARD 3-4:</u> Due to sensitive soils in this area, wheeled motorized vehicle travel shall be prohibited off of designated routes within this travel planning area (i.e. the 300-foot off-route allowance provided in Forest-wide standard A-1 shall not apply).	GNF Travel Plan, Detailed Description of the decision Chapter II -21	4	4	MVUM dated 8/15/2012 shows designated motorized routes. It does not indicate that dispersed camping is allowed along designated routes.
8. <u>Obj 4-1:</u> Repair damage to road and trail system. Provide road and trail system that accommodates traffic while protecting soil and watershed conditions. Schedule maintenance to achieve non- erosive conditions.	GNF Travel Plan, Detailed Description of the decision Chapter II -164	4	4	
9. Route Signage. Provide clear signage of designated routes and seasonal use restrictions.		2	2	New route signs not in place yet.
10. <u>Standard D-5.</u> Project Roads. Existing roads that were constructed for project use and not designated for motorized use via the Forest Travel Plan are to remain closed to public (wheeled) motorized use.	GNF Travel Plan FEIS pg. 1-11	4	4	

11. <u>Goal E. Water Quality, Riparian, Fisheries and Aquatic Life.</u> Manage a road and trail system that fully supports the protection of water quality, and habitat for fish, riparian dependent species, and other aquatic organisms.	GNF Travel Plan FEIS pg. 1-13 GNF Travel Plan, Detailed Description of the decision Chapter II -165	4	4	Based on review, reconstructed trail system has significantly improved long-term protection of water quality, habitat for fish and riparian dependent species, and other aquatic organisms.
12. Impact on Wildlife. In order to mitigate effects to wildlife during important times of year such as calving and fawning, wintering, road/trail work will be conducted from 7/15 to 10/15. Outside of important big game winter ranges, work in the late fall or winter may occur. Complete road/trail work in high elevation whitebark pine habitat by 9/1 to avoid conflicts with grizzly bear. (See Travel Plan Guideline I-1)	Road and Trail Work DN & FONSI p 25	3	4	Work was mostly in compliance with this requirement, but some work was completed in June, 2012.
13. Rare plants. All projects will be surveyed prior to construction for rare plants/habitats and appropriate mitigation will be planned if found	Road and Trail Work DN & FONSI p 27	4	4	
14. <u>Road Restoration, Stabilization, and Decommissioning</u> <u>Treatment Type III:</u> This treatment is used for closing roads and decommissioning them from the system. It may also be used on road segments that are at high risk for mass wasting into stream courses, even though the entire road may remain on the road system. Recontour the prism to original ground profile as close as practical. This is usually considered to be around ¾ of the original on this Forest. Remove all drainage structures and dispose of them. Remove all fills from drainages to as close to the original geometry as practical. Armor stream bottom if needed to prevent excessive erosion. Slash open soils. Seed open soils.	Road and Trail Work DN & FONSI p 25	4	4	This item applies to former road running alongside Bear Creek south of trailhead
15. Trail Rehabilitation, OBJ D-2. Close and rehabilitate existing non-system trail not otherwise designated for public travel (in this case, close existing system trail that has been	GNF Travel Plan p I-11	4	4	Trails closed by slashing

replaced by newly constructed trail)				
<p>16. <u>Invasive Weeds.</u> For projects scheduled to be implemented in 2010 and beyond, weed surveys of project areas shall be conducted at least 1 year prior to soil disturbance. If weeds are found, work with the district weed specialist to adjust project design or execution as needed to minimize the risk of spreading weeds. Any weed treatment shall be done at least one year in advance of soil disturbance work. For projects to be implemented in 2009, work shall be scheduled in late summer and fall such that weed surveys and any needed treatment can be done earlier in the summer.</p>	Road and Trail Work DN & FONSI p 27	NA	NA	<p>Pre-project inventory and treatment were not required when project implementation began. This work was not done.</p> <p>Bear Canyon would benefit from invasive weed survey and treatment.</p>
<p>17. Comply with 318 Permit (Short-Term Water Quality Standard for Turbidity Related to Construction Activity) requirements. <u>318 Permit, Item 3:</u> "All disturbed stream banks and adjacent areas created by construction activities shall be protected with erosion control measures during construction. These areas shall be reclaimed with appropriate erosion control measures and revegetated to provide long-term erosion control." <u>318 Permit, Item 4:</u> "Any excess material generated from this project must be disposed of above the ordinary high water mark, in an area not classified as a wetland, and in a position not to cause pollution of state waters"</p>	<p>318 Permit, Item 3: "All disturbed stream banks and adjacent areas created by construction activities shall be protected with erosion control measures during construction. These areas shall be reclaimed with appropriate erosion control measures and revegetated to provide long-term erosion control."</p>	2	3	<p>318 permit requirements were not met at every new bridge installation.</p> <p>Excavated soil deposits were disposed of below the ordinary high water mark at 1 crossing.</p> <p>Disturbed streambanks were not adequately protected with erosion control measures at several crossings.</p>
<p>18. Trail Construction to promote better drainage and less sediment inputs to stream and wetlands systems.</p>		3	4	<p>In general the trail drainage improvements, including extensive water bar installation and turnpike construction, are well sited and constructed and should provide significantly improved drainage compared to pre-project conditions. The application rating of 3 (rather than 4) is due to the apparent lack of attention to sediment control (per 318 Permit requirements) at some bridge installations and</p>

				concern for lateral stability of turnpike embankments.
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PHOTOGRAPHS



Decommissioned
Road on Bear
Creek Floodplain
approximately ½
mile south of
Trailhead



New Trail south of
Trailhead (constr-
ucted 2009-2010)



Typical Improvement to Existing Trail: turnpike and cross-drainage installed in wet area (2010)



Turnpike (installed 2010) lateral support system showing signs of degradation, and trail embankment soil bleeding under retaining log. This situation was observed at a number of locations and should be monitored.



Turnpike (installed 2012) crossing broad wet area. Note cross-drain culverts. Disturbed soil surfaces should re-vegetate rapidly (2-3 years)



New Bridge Installation at Bear Lake. Good installation in general, but note excavated material placed below high water mark in violation of 318 Permit requirements.



Typical New Bridge Installation. Note trail grade sloping away from ends of bridge to ensure trail sediment is not deposited directly into stream. Stabilization of raw soil around bridge abutments (required by 318 Permit) is passable, but should receive more emphasis in future installations. A simple improvement could consist of laying project-generated slash over bare surfaces adjacent to the stream channel.

CONCLUSIONS

1. The review team consensus is that the project work reviewed was successful in meeting the GNF travel plan objectives. To the degree that the review team could determine, the project has:
 - reduced contributed sediment from the road and trail systems;
 - improved water quality in Bear Creek such that it fully supports beneficial uses including habitat for fish, riparian dependent species, and other aquatic organisms;
 - repaired damage to the trail system; and,
 - provided a trail system that accommodates traffic while protecting soil and watershed conditions.
2. Several items were rated as only moderately successful with respect to application and/or effectiveness. These items, and the reasons for their ratings, include the following:
 - *Wildlife Impacts* application rating was lowered due to the completion of some work outside of the prescribed work window;
 - *Route Signage* application and effectiveness ratings were lowered because better and standardized signing of the recently improved route was not in place prior to opening the route to the public;

- *Trail Construction* application rating was lowered due to concerns over future lateral stability of turnpike embankments; and,
 - *Compliance with 318 Permit Requirements* application and effectiveness ratings were lowered due to erosion protection being considered insufficient at several bridge installations.
3. As valuable trail improvements associated with the Travel Plan are implemented, the GNF is unavoidably adding inventory and maintenance workload for such items as drain dips, turnpikes, etc.
 4. Based on this review the Travel Plan goals, objectives, standards, and guidelines for the Bear Canyon TPA are still valid.

RECOMMENDATIONS

1. Emphasize enforcement of contractor compliance with permit requirements (e.g., 318, 310, and 124 permits) and trail construction specifications (e.g., side slopes on turnpike embankments).
2. Complete trail sign installation prior to opening new and/or improved trails to the public.
3. Develop standard Gallatin NF contract specifications road and trail stream crossings including fords, bridges, and culverts. The specification should include seeding all bare soil disturbed areas within 50' of a stream then covering with 1-2" of weed free straw mulch, erosion blankets, or slash windrow.
4. Contract prep for Travel Plan implementation construction projects should develop a mitigation synopsis by SO design staff in coordination with District staff. The mitigation synopsis would be used by COR's, inspectors, and District staff in understanding the construction design and subsequent maintenance.
5. Outyear CMRD, CMTL, CMLG and consolidated NFRR funds should be planned and allocated for Travel Plan related road and trail maintenance, road/trail closure reinforcement, weed treatments, and sign maintenance.

Dale White
Forest Hydrologist